Chapter 11
Implementation

The *Revised General Plan* is part of an ongoing process. The Plan's policies and recommendations are, to varying degrees, refinements of policies from past plans. Likewise, the policies in the revised Plan will be building blocks toward future planning efforts. For this reason, the Plan does not end with a conclusion or summary, but with some specific guidelines for the future and an outline of the next steps to be taken. The Implementation chapter is divided into two sections. The first section details Proffer and Community Design guidelines. The second section outlines the initial actions that should be undertaken to implement the Plan.

The guidelines included in this chapter are specific reflections of funding and land use and community-design policies set forth in the Plan. These guidelines reflect the final recommendations of the Board of Supervisors. The priority implementation strategy is an outline of steps that the County must take to implement Plan policies. The County will actively pursue this strategy on a set timetable with a specific work program in a priority order established by the Board of Supervisors.

Proffer Guidelines

(Refer to Proffer Policies, Chapter Three, pg. 3-5.)

A. Capital Facilities

1. To assist the County in an equitable and uniform evaluation of developer proffers and other proposals for densities above the specified base density for each planning policy area, which otherwise conform with the policies of this plan, the County anticipates developer assistance valued at 100 percent of capital facility costs per dwelling unit.

2. Estimated capital facilities costs per unit by unit type will be calculated by a Capital Facility Intensity Factor (CIF) based on the adopted service plans and levels for each type of development. The CIF will be calculated using the following formula:

   CIF = (Household Size x Facility Cost Per Capita) + (Students Per Household x School Cost per Student)

   The Board of Supervisors will review the CIF on a biennial basis. If revisions are proposed, the revisions will be subjected to Board Public Hearing.

3. The following definition of "Capital Facility Proffer" will be used for the purpose of evaluating proffers:

   A contribution consistent with county policies and service needs, in cash or in kind (land or improvement), that benefits county residents at large, which is agreed to as a condition of a rezoning.

   To be considered a proffer based on this definition, the following criteria need to be met:

a. The facility proffered is dedicated to the County or to a local, state, federal or regional authority or otherwise satisfies a need identified in the County's Service Plan(s) and Levels, Capital Needs Assessment (CNA), and/or Capital Improvement Program (CIP). Facilities that are not dedicated for the exclusive use of a subdivision or group of subdivisions may be partially credited toward capital facility proffers. The partial credit is dependent on the Board of Supervisor's adopted service levels and plans, CNA and CIP, at the date of the official acceptance or at the date or reactivation of an inactive application. The measure of credit will be determined on a case-by-case basis and may not exceed what the County would expect to supply given the BOS adopted service plans and level-of-service standards for the population served at the date of official acceptance of the application or at the date of reactivation of an inactive application.

b. The contribution has a quantifiable value.

c. The value of land contributed for public use or use as a public facility site is recognized as a capital facility proffer. Land for County facilities should be conveyed to the County or its designee. The value of land to be retained by an owners' association or land developer is not recognized as a capital facility proffer.

d. The contribution would not be required under existing statutes or ordinances.

e. The proffer is irrevocable.

f. Transportation and road improvement proffers will not be included.

4. Base density thresholds are to be specified by planning policy areas as follows:

a. Rural Policy Area: The Rural Policy Area policies contained in Chapter Seven and related policies elsewhere in the plan address the County's rural strategy. Both the planned density for the Rural Policy Area and the resulting zoning pattern do not portend future zoning map amendments. In the event that planned densities are to be equivalent to potential density in the rural zoning district(s), a specified base density figure is not necessary. However, the County anticipates that residential zoning map amendment applications within existing villages and other similar applications in the rural policy area will include capital facility contributions.

b. Transition Policy Area: The Transition Policy Area policies contained in Chapter Eight and related policies elsewhere in the Plan address the County's vision for a separate and distinct planning area between the Rural and Suburban Policy Areas. For subareas of the Transition Policy Area that are planned for higher densities than those permitted by zoning district regulations applicable to property in the subarea, zoning map amendments may be pursued and capital facilities proffers will be anticipated. Such contributions will be evaluated in accordance with a base density equivalent to that contained in the existing zoning district regulations applicable to the property, and in effect at the time of application for a change in zoning.

c. Suburban Policy Area: The Suburban Policy Area policies contained in Chapter Six and related policies elsewhere in the Plan address the County's vision for unique communities with stringent design guidelines and performance standards. For zoning applications within the Suburban Planning Area that propose increases in residential densities, capital facilities proffers will be anticipated. Such contributions will be evaluated in accordance with a specified base density of 1.0 dwelling unit per acre or a base density equivalent to the density requirements contained in the existing zoning district regulations applicable to the property and in effect at the time of application for a change in zoning, whichever represents the lower base density.

d. Joint Land Management Areas: The Joint Land Management Area policies contained in Chapter Nine and related policies elsewhere in the plan address the mutual vision of the County and the Towns with respect to the delineation of joint land management areas proximate to the Town's

corporate limits. For zoning applications within designated management areas that propose increases in residential densities, capital facilities proffers will be anticipated. Such contributions will be evaluated in accordance with a specified base density of 1.0 dwelling unit per acre or a base density equivalent to the density requirements contained in the existing zoning district regulations applicable to the property and in effect at the time of application for a change in zoning, whichever represents the lower base density.

5. A developer proffering a land site as a part of an active re-zoning application shall contact Loudoun County for a list of appraisal firms approved by the County to determine the market value of land at its planned land use designation in the *Revised General Plan*. The developer shall contact one of the approved appraisal firms and request an appraisal. The cost of the appraisal will be paid for by the developer.

B. Open Space

In this Plan, the County has outlined a number of methods for acquiring open space. In the past, the Open Space Preservation Program was linked to increases in density. In the *Revised General Plan*, sufficient open space is recognized as a key component to all development regardless of density. However, the Open Space Preservation Program remains in place for the highest suburban density levels – from 3.5 dwelling units per acre to 4.0 dwelling units per acre. The County's program for obtaining open space comprises a "toolbox" approach with a number of mechanisms to ensure the adequate provision of active, passive, and natural open space in the County.

1. Open space within a development will be obtained through conservation design and clustering as detailed in this Plan and subsequent regulations. Conservation design provides for the on-site transfer of density away from environmentally sensitive or culturally significant areas (i.e., components of the green infrastructure including RSCOD).

2. Participation in the Open Space Banking Program permits up to 50 percent of required open space on an individual site to be provided off-site.

3. To achieve higher densities in residential communities, the Board of Supervisors anticipates evidence of participation in the Open Space Preservation Program according to the following guidelines:

    a. Residential Neighborhoods: Densities ranging from 1.0 dwelling units per acre for the Suburban Policy Area up to 4.0 dwelling units per acre may be considered by the County in accordance with the capital facilities guidelines of this Plan and may be considered by the County for voluntary participation in the Open Space Preservation Program. Residential densities above 3.5 and up to and including 4.0 dwellings per acre may be considered by the County in return for voluntary participation in the open space preservation program according to the guidelines presented below and the Density Transfer Guidelines.

    b. To achieve higher densities in High-Density Residential areas, the Board of Supervisors anticipates evidence of participation in the Open Space Preservation Program. Five percent of all residential units associated with densities above 4.0 dwellings per acre should result from the acquisition of an equivalent number of open space easements according to the guidelines presented below and the Density Transfer Guidelines. Offsite open space can include priority open space areas, greenbelts, and components of the green infrastructure. A land contribution on an acre-by-acre basis is desired. If the land offered does not suit the County in terms of quality or location, the County may consider cash in lieu of the land for the purchase of open space. The County will pursue the purchase of open space to provide additional active recreation, to create key trail connections, and to protect environmentally sensitive areas. The County will create a database of infill or other sites targeted for possible purchase. A per unit cash donation may be

made to the County for the purchase of open space, according to policies of this Plan. Cash donations for open space will be spent in the density transfer area from which the proffer contribution is obtained.

4. Although the County does not have the authority from the state to conduct a formal Transfer of Development Rights program, the County will seek enabling legislation to do so. Until a formal program is in place, the County will guide development to desired areas through conservation design and the purchase of open space easements. The purchase of easements for additional density has been referred to as voluntary transfer of density, and not to be mistaken with a formal TDR program.

5. The County's Purchase of Development Rights (PDR) program compensates property owners who voluntarily agree to sell the right to develop their land. The PDR program protects agricultural, natural, historic, and scenic resources and seeks to retain open space in the Suburban Policy Area.

6. Cash contributions may be provided for the enhancement and/or improvement of historic features within the policy area to fulfill the open space guidelines if the County agrees to or requests the exchange.

Density Transfer Guidelines

1. Density may be transferred from areas that are designated priority open space areas or greenbelts. Density may be transferred to appropriate suburban areas or Joint Land Management Areas provided that the new development potential does not exceed the receiving area's designated density cap. Development potential transferred from sending areas in the Rural or Transition Policy Area must be received by a property in one of those policy areas. Likewise, development potential transferred from sending areas within the Suburban Policy Area must be received by a property within the same suburban community. Density from properties included on the State or National Registers of Historic Places and/or from properties within local historic districts may be transferred, without regard to policy area boundaries, to any property qualified to receive additional density.

2. Development potential (density credits) will be calculated based on the density rate of the zoning district that applies to the sending parcel at the time the application is received. No density credit will be given for existing dwellings.

3. Transfers of development credits out of critical environmental areas that are identified in this Plan may be accomplished on site through conservation design.

4. Density credits from property in the Rural Policy Area may be transferred into Town Joint Land Management Areas.

County/Town Annexation Agreement/Corporate Boundary Adjustment Guidelines

The County and the incorporated Towns will explore alternatives for entering into annexation agreements to facilitate the annexations of properties that are receiving Town sewer and water services. Agreements might include language based on the following recommendations:

1. It should be the intent of the County and of the Town that any property located within the Joint Land Management Area (as defined in the policies of this Plan) which is presently or would be served by Town sewer and/or water in accordance with the utility policies included in this Plan, should, in the

future, be annexed by the Town.

2. The Town and the County should only honor requests for the extension of sewer and/or water services outside the Town's corporate limits, within the designated Joint Land Management Area provided that the beneficiaries of such service prepare written acknowledgement of the right of the Town Council to annex the subject properties. If the Town should desire, this written acknowledgement shall include the beneficiaries' written agreement to join with the Town in a joint annexation petition.

3. Parcels located within the designated Joint Land Management Area and contiguous to the corporate boundaries of the Town which have agreed to annexation in exchange for Town sewer and/or water service should be immediately annexed by the Town upon County approval of the rezoning and/or development proposal that requires water and/or sewer service.

4. Parcels located within the designated Joint Land Management Area which have agreed to annexation in exchange for Town sewer and/or water but which are not contiguous to the corporate boundaries of the Town should enter into an agreement with the Town as follows: that annexation of these parcels should take place at such time as the subject parcels become contiguous with the corporate limits of the Town or five years from the date of County approval of the rezoning and/or land development proposal which requires Town water and/or sewer service, whichever comes first. In the latter case, where parcels receiving central sewer and water remain noncontiguous to the corporate limits of the Town, any parcels lying between the corporate limits of the Town and the noncontiguous parcel which is receiving Town sewer and water should be annexed at the end of the five year period. However, these intervening parcels should not be require to hook into the Town sewer and/or water service unless desired by the property owner or necessary in order to maintain public health standards.

5. At such time as the County approves the rezoning and/or development proposal of a property in the Joint Land Management Area, which would require Town sewer and/or water service, such approval should constitute the County's approval of such annexation. At the time of such approval, the County should also provide the Town with written consent of annexation.

6. All Towns may proceed with annexations or with corporate boundary line adjustments irrespective of whether the Town has a Joint Land Management Area. In cases where there is a need to make a minor adjustment to a corporate boundary, the Town and the County may process a corporate boundary line adjustment pursuant to the State Code provisions. For incorporation of property which is more expansive in size or which will have broader jurisdictional and land use implications for the Town as well as the County, an annexation proceeding is appropriate. The State Code provisions apply to annexations and the County will work with each Town on an annexation pursuant to state requirements.

Design Guidelines

The following design guidelines are interim guidelines and will provide direction in the evaluation of land development applications through both the legislative and ministerial process until the new design guidelines are adopted. Because of the importance of the design of new communities in achieving the Plan's goals (and in guiding the development of ordinances and regulations to implement the Plan) the creation and adoption of a comprehensive set of detailed design guidelines is a top implementation priority of the Plan. In the meantime, the following guidelines as amended to reflect the policies of the Revised General Plan will be applied much as they have been since the adoption of the 1991 General Plan. The Countywide Retail Policy Plan provides design guidance in the development of retail land uses. Specific area plans also provide community design guidance.

Loudoun County is heir to a distinguished design tradition of settlement that creates communities of enduring quality and function. County development from the 1960s onward, however, has tended to follow a set of planning conventions that developed after World War II and has produced mixed social and transportation results. Loudoun County intends to encourage a return to historic settlement patterns with an emphasis on conservation design and the compact design it will provide in the evolution of existing places and in the design of new developments.

A. Conservation Design

Conservation design is a method of land development that conserves the Green Infrastructure elements of a site while providing for development at full density credit on the remainder of the site. This design process will be applied countywide to all development. The method consists of a four-part process. The first step in conservation design is to identify those Green Infrastructure features of a site to be preserved. The unconstrained land then is available for development and buildings can be located in that area as part of the second step. Street, utility, and trail locations are then introduced on the development plan as the third step. The final step is to locate lot lines. This approach results in clustered, compact development patterns that promote a variety of nonresidential and residential building types and a contiguous Green Infrastructure network. Fundamental to the conservation design method is flexibility in setbacks, lot patterns, and lot sizes. The need for buffers between similar uses may be unnecessary. This type of development also reduces road and utility costs due to the clustered pattern of development.

B. Suburban Community Design Guidelines

The design guidelines directing the pattern and style of development in the Suburban Policy Area will be more fully defined by the community during the Community Plan process. In that process, consideration will be given to the mix of land uses, the appropriate location and types of traffic calming techniques and pedestrian connections, and the identification of priority open space areas. Suburban Policy Area communities will be developed as efficient, compact, mixed-use and pedestrian-oriented communities with a range of residential lot sizes. They will provide a measurable standard of open space (active, passive, and natural), and will fully integrate the County's Green Infrastructure.

This Plan strongly endorses the development of four distinctive communities. This may include town centers and other mixed-use developments surrounded by residential neighborhoods and areas of natural open space to promote a sense of community, foster a pedestrian-friendly environment, and lessen reliance on the automobile. The central premise in this design approach is that the focus should be on designing communities rather than individual structures. The *Revised General Plan* outlines a variety of residential, business, and industrial communities. Each type of development offers unique design opportunities through function, scale, and ancillary activities. The following design guidelines are intended to give the landowner and developer ideas, not directions, that will help accomplish the County's community-design objectives.

Community Form

Each suburban community will consist of well-defined neighborhoods and comprise a town center containing a mixture of civic, commercial, employment, and higher-density residential uses adjoining three or more residential neighborhoods with numerous street and trail connections to the center. Communities will be pedestrian-friendly environments, possessing a harmonious mix of housing types, commercial and employment land uses, and a full complement of public and civic facilities appropriate to the community.

The residential neighborhoods and town centers all generally will be designed in a rectilinear pattern of blocks and interconnecting streets. Such streets will be bordered by buildings and lined with street trees,

lighting, and other street furniture to create distinct public places that are comfortably and equally shared by pedestrians, bicyclists, and automobiles.

While a variety of uses may be located in the residential neighborhoods, the town centers will be the business, civic, and social heart of the community. Each area will express its own distinct character. Similarly, different communities will be identified by their unique character as exhibited by their scale, mix of uses, environmental features, and other means, and each will enjoy a certain clarity of definition by means of an interstitial or internal greenbelt containing parkland, schools, churches, and other land uses with an open quality.

1. Residential Neighborhoods

a. Function:

Residential Neighborhoods are intended to provide a mix of residential dwelling types and civic uses; they should have a peaceful character suitable for private domestic life, recreational activities, and neighborhood social gatherings. Residential neighborhood structures and facilities, while providing for a wide spectrum of housing types as well as civic, educational, recreational, and commercial use, should maintain an intimate, domestic scale and be designed to maximize privacy within residences and rear yards and foster small group interaction within the hierarchy of small communal squares and greens distributed throughout the neighborhood.

b. Scale:

The neighborhood is intended to provide densities of up to 4.0 dwelling units per acre. The proximity of adjoining buildings and the narrow streetscapes will provide a very pedestrian-oriented intensity. In general, buildings should be one to three stories. Residential Neighborhoods will be compact, with small lots for detached dwellings.

c. Land Use Arrangement:

Different land uses should be mixed in the same neighborhood. A variety of domestic and supporting land uses such as day care, personal services, or local recreation sites will be fundamental to all neighborhoods; additional civic, commercial, and employment uses also may occur as part of a Residential Neighborhood commercial component. These different uses should be combined in logical and harmonious ways but should not be relegated to single-use pods, as is typical of a conventional suburban development.

For reasons of community harmony and visual compatibility, like uses should front one another across secondary collector and local access streets, while compatible but different types of uses may be placed on adjoining lots along these streets. Compatibility will be measured in terms of size, architectural similarities, landscaping, site development, and other similar matters. Should other considerations cause the fronting of unlike uses, every effort should be made to maintain a similarity of building mass, scale, window and door openings, and detail. In short, different and even disparate uses may and should be harmoniously located within the residential neighborhoods and within the individual block as well.

Open space and how it functions in the neighborhood also is important. The “outdoor rooms” of a community play a critical role in establishing community identity and facilitating social activities. The *Revised General Plan* calls for a significant open space component consisting of elements of the Green Infrastructure such as stream corridors, floodplains, woods, wet ponds, community gardens, greenbelts, buffers, trails, structured parks, athletic fields and playgrounds. A hierarchical assortment of squares and greens should be located throughout the residential neighborhoods,

while neighborhood, community, district, and County parks should be located between them.

Active open space generally should be located within 1500 feet of all residences within residential neighborhoods. In Residential Neighborhoods recreational areas should be open to the surrounding streets and contribute to a sense of spaciousness. While protection and integration of the natural features of a site through conservation design techniques will be paramount, usable open space such as squares and greens generally should be flat and well drained and have a minimum size of 10,000 square feet fronting on a local street.

Community, district, and County parks generally will be located between Residential Neighborhoods and be reached on foot, by means of sidewalks on local access streets and/or trail connections or by automobile on primary or secondary collector roads. While topography, vegetation, hydrology, proposed use, and design intentions should determine the location of playing fields and placement of community centers, bleachers, and other structures in these parks, significant park buildings generally should be located along and be very visible from the secondary collector roads linking neighborhoods, town centers, and should be near the areas served.

Civic and community uses should be recognized as the major landmarks of a community and should be associated with the town centers and urban centers, although placement on a secondary collector road within the residential neighborhoods also may be appropriate. Though the sponsors of these uses may not be able to afford the price that a prominent site might command, every attempt should be made to provide civic and community uses with highly visible locations, such as the termination of a vista or a prominent location around a square. Furthermore, civic or public structures should be located along a collector road or street.

Such uses should be featured and not lost within a sea of parking on an inconsequential side street of a community. Parking for civic and public uses should be either provided as parallel parking along the street or behind the use, in the middle of the block. Because users of these buildings frequently arrive after the conclusion of the working day or on the weekend, shared parking agreements with nearby office or commercial developments may be appropriate, reducing the required lot size, and rendering the projects more affordable.

Blocks should be the main organizing feature of individual neighborhoods. While conservation design, hydrology, proposed use and design intentions should determine block size and configuration, Residential Neighborhoods should have small block widths and lengths - an exception to this rule may apply to those blocks on the edge of a community where a low-density “country” effect is sought. Although considerable design freedom is granted in the design of blocks, pedestrian movement is best encouraged by blocks not exceeding 400 feet in length. Furthermore, residential blocks of greater than 200 to 300 feet in width tend to develop accessory, sometimes unanticipated, land uses along the service alleys.

Pedestrian movement is stimulated by a brisk succession of structures and intricate building detail. Movement declines with boring front yards, nondescript side yards and dull garage doors. Side yards provide little usable family outdoor recreation space while generating the need for additional, costly road and utility construction and rectangular rear yards generally provide the most effective space for family activities. Neighborhood lots should reduce front and side yards to the minimum needed for health and safety reasons and strive to provide effective and usable rear yards. To this end, lot designers should consider the use of a “build-to” line, which would establish the maximum setback of structures from the street and also consider establishing a clear definition such as a low wall or hedge, between the private front yard and the sidewalk space.

d. Streetscape:

Neighborhood rights-of-way should be designed in a hierarchical, generally rectilinear pattern of collector roads and local access streets and alleys that respects the Green Infrastructure elements of the community. Streets should terminate in other roads and streets. Collector and local access streets are to be considered the main "public rooms" of a community and should be designed to accommodate a number of specific, interactive functions, such as: (i) pedestrian, bicycle and vehicular movement, and the parking of cars; (ii) foreground and entryway into private residences, communal and public buildings; and (iii) interactive social space.

To achieve these functions streets should be designed as a network of defined yet lively spaces surrounding blocks. Each street should be further designed as a set of carefully graduated zones as follows:

i. A zone of privacy near the entry and ground floor windows of residential buildings or an "eddy" area adjacent to commercial buildings;

ii. A pedestrian movement and meeting zone;

iii. A buffer zone of street trees, plantings and parked cars; and

iv. A zone of moving vehicles.

In order to define the street space, buildings facing each other across the street should be placed close to the street with minimal setbacks to frame the street. Spatial definition should be reinforced with the regular planting of street trees chosen to develop an overhead leaf canopy. Further street definition should be sought by emphasizing block corners with street lights, while the vista at the end of the street should terminate with a centrally placed building façade, such as a major house or civic building, an archway into a neighborhood green, a church spire or a monument.

Major collector roads, used primarily to connect communities with each other and with the arterial network, should avoid dividing any Residential Neighborhood, although major collector roads may skirt such neighborhoods. Secondary collector roads, which act as the primary link between the residential neighborhoods, should be distinguished from the local access streets that they serve by means of larger scaled and more dignified structures, such as churches, major residences, grander tree species and richer choices of street furniture. Local access streets should possess a liveliness generated by variety of building types and details such as entryway porches, interesting doors, lighting fixtures and by careful selection of street furniture and trees.

Alleys provide for property service functions such as rear yard and accessory apartment access, parking and garaging, utilities and trash collection. While the service function of alleys will strongly influence design character, a certain irregular charm and casual mix of ad-hoc service and recreational functions should be sought in the design of these, important playground and "chore-ground" areas.

Continuous parallel parking for additional cars and visitors should be provided in the street at the front of residential lots. Garages should be set back from the front façade of the dwellings.

Parking for non-residential, civic, commercial, employment and recreational uses located in the residential neighborhoods should be provided in the middle of blocks and reached by means of alleys, and/or provided by continuous on-street parallel parking, or provided on the perimeter of

the neighborhood and reached by secondary collector roads. In no case should parking lots occupy significant frontage along residential neighborhood streets or in the town centers. Parking space requirements may be relaxed in those instances of mixed employment, commercial, and residential use in a town center, urban center, or transit node in which the time-sharing of a parking space is feasible.

Streets and their widths are perhaps the most distinguishing feature of suburban developments. Typically designed to move only auto-mobiles, streets seldom play a constructive role in community character. However, street designs that are sensitive to views, pedestrian movement, landscape, and physical enclosure may create, in new communities, an outdoor public space that encourages community interaction and social activity.

Cul-de-sacs, along with significant building spacing and homogeneity of uses, represent a basic visual characteristic of suburban neighborhoods. In some circumstances, the use of cul-de-sacs and curvilinear streets will be essential in order to implement conservation design. Cul-de-sacs can separate one neighborhood from another and may prevent convenient pedestrian or vehicular movement. Interconnected streets, whether in a grid or curvilinear pattern within the neighborhood provide better traffic movement and emergency service response as well as greater opportunities for social interaction. Cul-de-sacs should be limited to the minimum required to address environmental and engineering constraints.

Sidewalks and pedestrian ways supplement and complement street systems in establishing the character of a residential environment. The pedestrian circulation system need not parallel the street system. However, a sidewalk should be provided on at least one side of a public street. Trails and paths behind homes or through public open space present a safety concern for both the pedestrian and the adjoining property owner. Any use of trails not associated with a larger publicly managed park system should incorporate design features that enhance safety and security for users and property owners. Pedestrian circulation systems should be provided as convenient, safe, and attractive links between residential groupings, open space areas, recreational areas, schools, and local shopping centers.

2. High-Density Residential Uses

a. Function:

High-Density Residential neighborhoods are established to provide for a variety of attached and multi-family housing types in neighborhood settings with supporting non-residential uses in a planned environment fostering a strong sense of community. High-Density Residential neighborhoods are intended to implement Loudoun County policies related to residential and public uses of land in those areas that have been developed at, or are appropriate for, medium- and high-density residential densities.

It is the intent of the Plan that density that would otherwise be spread out in a low-density pattern will be drawn into specific mixed-use communities and that these communities will provide a greater range of housing types and sizes to meet the County's affordable housing objectives. At the same time, such a pattern is intended to provide significant quantities of open space (preferably public open space) both in and around the high density neighborhood or the community in which the neighborhood is located.

b. Scale:

A High-Density Residential neighborhood should have an overall density range from 8.0 and 24.0

dwelling units per acre in the Dulles Greenway corridor, and from 8.0 to 16.0 units per acre in mixed-use areas located outside the Dulles Greenway corridor depending on the character of the community in which it is located, limits set by the land use and location policies of the Plan, and the availability of utilities, roads, and amenities.

The mix of uses should be such that a full range of housing opportunities is provided. The scale of individual structures, including larger apartment buildings possibly with structured parking; larger public facilities such as parks and community centers, and close proximity to commercial and employment opportunities also will set the High-Density Residential neighborhood apart from other neighborhoods.

c. Land Use Arrangement:

The High-Density Residential neighborhood designation is established to provide for the development of a mix of duplex, single-family attached and multi-family dwelling units recognizing that conservation design may warrant more compact development on certain sites. Compatible governmental, educational, religious, recreational, and other uses required to support the residents of these areas may form a residential neighborhood center around which the residential uses are located. Convenience establishments designed to serve the daily or frequent retail and service needs of the immediate surrounding population, as governed by the *Countywide Retail Policy Plan*, may form a part of a residential neighborhood center in a High-Density Residential neighborhood.

Open space plays a critical role in defining the quality of life in a High-Density Residential neighborhood because of the greater concentration of residents. Sufficient space must be set aside in the form of neighborhood and community parks, greens, trails, and greenbelts so that all residents, especially children, can easily walk to and enjoy the open space. The open space should not be centralized in one area but should take the form of a larger central facility with numerous smaller parks and playgrounds at appropriate locations throughout the neighborhood.

A High-Density Residential neighborhood should provide for safe, efficient, convenient, and harmonious groupings of structures, uses, and facilities. Elements of the proposed development should be designed to account for existing characteristics of the property through conservation design including its topography, vegetation, habitat, and hydrology. The site plan should address the role of spaces between and around buildings relative to intended uses and structural features.

d. Streetscape:

High-density structures should be within convenient walking distance of a Town Center and/or toward the entrance of the community to minimize the traffic through lower-density areas. This also will facilitate the designation of the Town Center as a transit stop. Wherever they are located, multi-family buildings should be designated as part of a tiered unit with townhouses acting as a transition between multi-family and single-family detached units.

Principal vehicular access points should be designed to encourage smooth traffic flow with controlled turning movements and minimum hazards to vehicular or pedestrian traffic. Left-hand storage and right-hand turn lanes and/or traffic dividers should be provided where existing or anticipated heavy flows indicate need. Minor streets should not be connected with streets outside the development in such a way as to encourage the use of such minor streets by substantial amounts of through traffic.

Yards, fences, walls, or vegetative screening at the edges of any High Density Residential neighborhood should be provided where needed to protect residents from undesirable views,

lighting, noise, or other off-site influences, or to protect residents of adjoining residential neighborhoods from similar adverse influences. In particular, extensive off-street parking areas, service areas for loading and unloading non-passenger vehicles, and areas for storage and collection of refuse should be screened.

3. Town Centers

a. Function:

A Town Center should have a lively, robust character integrating employment, commercial, residential, and public uses. Town Center structures and facilities should have a larger scale than their surrounding neighborhoods. Rather than dilute the energy associated with Town Centers, land uses should be located on multiple floors of buildings with small footprints and maximum use made of shared and structured parking. Refer to *Countywide Retail Policy Plan* for policies governing the retail component.

b. Scale:

The Town Center will have an overall area of 30 to 60 acres. Rectangular blocks should be the main organizing design feature of individual lots in any Town Center. Pedestrian movement is best encouraged by blocks not exceeding 400 feet in length. Residential blocks of greater than 200 to 300 feet in width and commercial/ employment blocks greater than 300 to 400 feet in width tend to develop accessory, sometimes unanticipated, land uses along the service alleys.

The Town Center will seek to create urban enclosures or “outdoor rooms” using the space created between buildings and streets. In large cities the enclosure is stifling because of the monumental scale of the buildings. In Town Centers, a human scale is achieved by limiting building height to two to four stories, providing street trees to break the vertical view or using architectural features to disguise the impact of higher structures and minimizing the distance between facing buildings. When discussing enclosure, it will be important to consider the view looking towards the end of the street. These views must terminate in a structure(s) of equal size and scale in order to accomplish the enclosure. The Town Center, at its core, literally should stand above the surrounding neighborhoods and then transition downward to the edge of the residential neighborhood.

Individual buildings should be narrow along the street frontage to provide the pedestrian with an interesting variety of facades and patterns. Large structures (more than 100 feet wide) should provide a variable façade with numerous openings and setbacks rather than an unbroken wall.

c. Land Use Arrangement:

A mix of land uses should be located in the Town Center. Public, civic, commercial, and employment uses will predominate in the Town Center. Local and regional office functions should be located in the middle of the Town Center, with community and some regional commercial uses located on the ground floor. Furthermore, such non-residential uses should be visible and accessible from the collector roads that link the centers with their surrounding neighborhoods and that converge within the Town Centers. Parking for those employed in office and commercial uses should be located within the center of the blocks, either on grade or in parking structures.

Residential structures also should be located in the Town Center, and should share in the more ample scale and higher intensity of the center by being incorporated into business structures. Freestanding residential development will be predominantly townhouses and apartments. Although gardens for such residential uses should be provided, in the interest of not dissipating the

vigor and energy of the center, these open spaces should have a private character and not dominate the streetscape. Housing should range from affordable through market rate garden multi-family units, to luxury condominiums. Again, affordable units should be interspersed with larger, full-featured dwellings.

For reasons of community harmony and visual compatibility, similar uses should generally front one another across secondary collector and local access streets while compatible uses may be placed on adjoining lots along these streets. Should other considerations cause the fronting of unlike uses, every effort should be made to maintain a similarity of building mass, scale, window and door openings, and detail. The parking for such various uses on opposite sides of a block may be located along the alleys and should be shared if appropriate.

A hierarchical assortment of squares and greens should be located throughout the Town Center. In the Town Center, these small squares and greens should be protected from the street by low walls or thick hedges to create a quiet environment away from the bustle of urban activity. While protection and integration of the natural features of a site through conservation design techniques will be paramount, usable open space such as squares and greens generally should be flat and well drained and be a place for recreation and social activities.

A civic square and/or formal civic boulevard should be located prominently in the Town Center. This green area should be surrounded by institutional, commercial, and office structures and should be designed as the central meeting place of the community in times of special community events as well as daily small group and individual relaxation. The green should be a substantial size relative to the surrounding community to provide a sense that it is a dignified or special place, and much of its perimeter should open onto the surrounding streets. The square should have durable ground surfaces, appropriate outdoor furniture and low walls for sitting, spotlight and background lighting, and suitable landscaping (with minimal eye-level obstruction but with a significant overhead leafy canopy in summer months).

Civic and public uses should be recognized as the major landmarks of a community and should be associated with the Town Center, although placement on a secondary collector road within the residential neighborhoods also may be appropriate. Every attempt should be made to provide civic and public uses in highly visible locations, such as at the termination of a vista or at a prominent location around a square. Furthermore, civic or community structures should be located along the collector road or street, closely integrated within the Town Center fabric. In short, such uses should be featured and not lost within a sea of parking on some inconsequential side street of a community.

Parking for civic and public uses should be provided either as parallel parking along the street or behind the use in the middle of the block. Because users of these buildings frequently arrive after the conclusion of the working day or on the weekend, shared parking agreements with nearby office or commercial developments may be very appropriate, reduce required lot size, and render these projects more affordable.

d. Streetscape:

Pedestrian movement is stimulated by a succession of structures and intricate building details and declines with boring front yards, nondescript side yards and dull garage doors. Side yards provide little usable space unless they serve as alleys, while generating the need for additional, costly road and utility construction. Rear yards provide the most effective space for utility functions and parking in business complexes. Town Center lots should reduce front and side yards to the minimum needed for health and safety reasons and strive to provide effective interaction with the

sidewalk. Lot designers should consider the use of a "build-to" line that would establish the maximum setback of structures from the street and thereby define them clearly.

Town Center roads and streets should be designed in a hierarchical, rectilinear pattern of collector roads providing access to arterial roads outside the community and local access streets and alleys connecting to adjoining neighborhood streets. Secondary collector and local access streets are to be considered the main "public rooms" of a community and should be designed to accommodate a number of specific, interactive functions including pedestrian, bicycle, and vehicular movement, daytime parking of cars, and interactive social space.

To define the street space, buildings facing each other across the street should be placed close to the street with minimal setbacks to frame the street. Spatial definition should be reinforced with the regular planting of street trees chosen to develop an overhead leaf canopy. Further street definition should be sought by emphasizing block corners with street lights, while the vista at the end of the street should terminate with a centrally placed building façade, such as a major house or civic building, an archway into a neighborhood green, a church spire, or a monument.

Town Center collector and local streets and the uses located along them may be appropriately designed in a "tartan" layout that distinguishes those most suitable for pedestrian movement and those most suitable for vehicular movement—although both should accommodate either mode of travel. In such specialized designs, office and apartment parking structures, gas stations, car washes, supermarket parking lots and other auto-related functions would be located along streets primarily designed for the automobile, while the office, apartment and most store entrances would be located along streets designed primarily for pedestrians.

Parking in Town Centers primarily should be located in the middle of blocks and reached by means of alleys or driveways. Parallel parking, for use mainly by visitors and shoppers, should be designed along both sides of the secondary collector and local access streets in the Town Center. Parking lots should not occupy significant frontage along Town Center streets and then only if the surface parking is screened from sidewalks with walls and hedges and street trees. Parking space requirements may be relaxed in those instances of mixed employment, commercial, and residential use in which the time-sharing of a parking space is feasible.

4. Urban Centers

One Urban Center will be located in the Suburban Policy Area. An Urban Center functions as an intensive, large-scale mixed-use community. It features well-configured squares and greens, a traditional network of landscaped streets with frontages dedicated to social, recreational, and visual enjoyment of the pedestrian as well as the motorist, a rectilinear pattern of small blocks, and the location of civic buildings that act as landmarks and symbols of community identity. The design guidelines for High Density Residential and Regional Office areas provide direction for these elements located within an Urban Center. Like traditional urban centers that go through continual cycles of change, the modern Urban Center will evolve through phasing in response to changes in the surrounding communities, the development of services such as mass transit, and changes in business and housing trends.

5. Transit Nodes

Two Transit Nodes, eventually served by rail transit, will be located along the Dulles Greenway. These two Transit Nodes will serve different functions: the Transit-Oriented Development (TOD) will serve as a compact mixed-use Transit Node, while the Transit-Related Employment Center (TREC) will serve as a compact, pedestrian-oriented area for employment or Special Activity uses. Each Transit Node will encompass an area no greater than a 1/2-mile from Transit Node edge to the transit stop to ensure compact

development, with reliance on transit and pedestrian circulation. Certain areas of the Transit Nodes should be reserved as car-free districts.

The TODs will be composed of a core and an outer core. Transit stops will be located at the center of the core. The highest land use intensities will be located close to the transit stop at the core of the TOD. Land uses diminish in intensity as they increase in distance from the transit stop. A Transit-Supportive area will surround the TOD, providing for a continuation of the pedestrian-oriented pattern, with short blocks arranged in a rectilinear pattern to facilitate pedestrian access to feeder bus stops, and efficient access for the feeder buses to the Transit Node core. Higher density development in the Transit-Supportive area should be clustered in pockets along transit corridors to support feeder bus travel.

The TREC will encompass an area no greater than a 1/2-mile arc north of the transit station. Because the TREC is encumbered with RSCOD and access to the site is limited by the Dulles North Transit Center, it is crucial that pedestrian networks be clear, safe, and logical. Development within the TREC will be compact and provide for efficient pedestrian and transit connections to the transit station. The TREC may develop as a special activity use, such as a sports stadium.

The development intensity of the Transit Nodes will be phased when road and transit capacity can support it. The County will consider density and intensity increases when there is adequate transportation capability to handle the associated traffic increases (roads, bus, and rail). Each density and intensity phase can be achieved when the next level of transportation capacity is planned, programmed, designed, and fully funded for construction either by public subsidy, a joint public/private venture, a consortium of property owners, or the private sector, in order to ensure adequate transportation capacity.

The *Toll Road Plan* provides additional design guidelines.

6. Destination Retail

The *Countywide Retail Policy Plan* amendment provides design guidelines for Destination Retail areas.

7. Light Industrial and Regional Office

a. Function:

In most cases, the design features of a Light Industrial area are much like those in a Regional Office area. The principal issue is the relationship of a mix of residential and non-residential uses to form a sustainable community. The following design guidelines are intended to address concepts in both the Regional Office and Light Industrial areas where a mix of uses is encouraged. The primary purpose of Light Industrial or Regional Office communities is to accommodate a mix of similar and compatible office, light industrial, related business uses, and accessory commercial uses in conjunction with compatible residential development. Such developments will exhibit a conservation design and have minimal impact on the natural environment or surrounding uses and exhibit the highest quality in site and building design consistent with the Green Infrastructure and land use policies of the Plan.

These communities advocate a mix of High Density Residential uses as a means of promoting a sustainable and localized living and working environment. Where residential uses are appropriate, a range of housing opportunities, including multi-family dwelling units and single-family attached dwelling units should be accommodated. However, such housing is to be provided as a subordinate use to the primary business function of the development.

The *Revised General Plan* acknowledges the benefit of promoting Keynote Employment developments. Keynote Employment development is intended to be a pure land use accommodating prominent, high-quality, high-traffic-generating uses comprised of 100 percent office and research and development parks located along the County's primary employment corridors including Route 7, and the eastern end of the Dulles Greenway. Although Keynote Employment developments do not have a residential component, they should have the general characteristics of Regional Office developments.

Regional Office or Light Industrial developments will emulate the key traditional design concepts of the *Revised General Plan* by addressing the design and function of exterior spaces, pedestrian access from adjoining residential areas, and architectural cohesiveness and environmental conservation. The Regional Office and Light Industrial uses will be the prominent features of the community when viewed from periphery roads as well as the predominant use in terms of percentage of site occupied. Within the Route 28 Corridor, all development will comply with specific base design standards contained within the *Route 28 Corridor Plan* in Chapter 6 of the *Revised General Plan*.

Other business and commercial uses are limited to types and scales designed to serve primarily the convenience needs of the business and local residential uses. Such establishments may include office supply stores, printers, courier services, variety stores, health clubs, drug stores, laundry and dry cleaners, and delicatessens. Employment-serving retail uses located within Regional Office and Light Industrial developments are governed by the land use policies and design guidelines included in the *Countywide Retail Policy Plan*.

The design of the residential portion of Regional Office or Light Industrial development is governed by the guidelines for High-Density Residential uses provided above. Such uses will be provided with a full complement of residential services and amenities including parks, playgrounds, public facilities where warranted, and sidewalks and trails for access to local employment and shopping. The residential uses should be of a scale comparable to the surrounding office or light industrial uses.

Where residential and office or industrial uses are planned together, the *Revised General Plan* does not seek to screen or buffer one completely from the other. Screening should be used where a light industrial activity creates noise, odor, dust, objectionable views, or emissions. Otherwise, consideration of building scale to ensure that adjacent uses are comparable; changes in landscape treatment to signify a transition along a street, providing pedestrian amenities such as sidewalks along business streets, interesting public open spaces and parks, and other design features will promote a blending of the uses into a unique community.

b. Streetscape:

Rights-of-way should be designed in a hierarchical, rectilinear pattern of collector roads and local access streets and alleys as accommodated by conservation design techniques. Streets should terminate in other roads and streets. Collector and local access streets are to be considered the main "public rooms" of a community and should be designed to accommodate a number of specific, interactive functions, such as: (i) pedestrian and vehicular movement and the daytime parking of cars, (ii) foreground and entryway into buildings and, to a lesser extent, (iii) interactive social space.

To define the street space, buildings facing each other across the street should be placed close to the street with minimal setbacks to frame the street. Spatial definition should be reinforced with the regular planting of street trees chosen to develop an overhead leaf canopy. Further street

definition should be sought by emphasizing block corners with street lights, while the vista at the end of the street should terminate with a centrally placed building facade.

Major collector roads, used primarily to connect communities with each other and with the arterial network, should avoid dividing any residential area, although major collector roads may skirt such neighborhoods. The major collector roads serving the development should be the location of larger-scaled and more dignified structures such as a corporate headquarters, or similar multi-storied buildings, grander tree species, and a richer choice of street furniture, gateways, walls, and other design features. Local access streets should possess liveliness generated by a variety of building types and details and, where appropriate, should transition downward in scale to be compatible with adjoining residential uses.

Front yards should be minimized and the buildings moved closer to the street to create a better sense of visual enclosure for motorists and pedestrians except in Keynote Employment areas. Parking should not be located at the front of buildings. Parking can be moved to the center of the block and shared by other uses. An alley would provide the principal egress from the parking area thereby minimizing the number of curb cuts along the street. Short-term and visitor parking can be accommodated along the side or on the street. Similarly, parking structures should be located in the middle of the block, screened from the street by office or industrial buildings.

Keynote Employment developments normally will maintain larger front and side yards to permit extensive landscaping and design features to accentuate the larger-scale structures. Unlike other office and light industrial communities, individual Keynote Employment uses are intended to be the focus of the development rather than interrelationships of a group of uses.

8. General Industry

a. Function:

The General Industry designation is established for industrial uses; industry-related commercial uses such as equipment repair, distributors, welding shops and similar uses; and necessary supporting accessory uses and facilities designed with a park-like atmosphere to complement surrounding land uses by means of appropriate arrangement of buildings and service areas, attractive architecture, and effective landscape buffering. General Industry areas, because of their function represent a unique design opportunity. The road network must serve industrial traffic; different uses require different levels of visibility (or invisibility) and other divergent needs and because of the wide range of uses that could locate in the development, uses within the development may not be compatible with each other.

Areas appropriate for a General Industry designation should be in locations served by one or more major roads and in those areas of the County served by public water and sewer. Because of the range of uses, General Industry developments should not be considered as the employment component of Residential Communities.

b. Scale:

General Industry areas will be developed on sites of approximately 20 acres to permit adequate landscaping, screening, and setbacks to be provided. The size and scale of individual lots will depend on the nature of the use but are expected to vary.

c. Land Use Arrangement:

As indicated above, the General Industry designation is established for industrial uses, including

such uses as warehousing, outdoor storage, and distribution uses, and the bulk storage of hazardous materials. In addition, certain necessary supporting accessory uses and facilities may also be permissible. General Industry developments should be designed with a park-like atmosphere to complement surrounding land uses by means of appropriate arrangement of buildings and service areas, attractive architecture, and effective landscape buffering.

Commercial uses should be located to minimize possible conflicts with industrial traffic. Most commercial uses should be located towards principal entrances to the development, but without direct access to an arterial or major collector road. Where a street connection is made to an adjoining community or neighborhood, compatible commercial and smaller-scale industrial uses should be located to provide a transition. The land use policies and design guidelines provided by the *Countywide Retail Policy Plan* govern employment supportive retail uses.

d. Streetscape:

Site planning within a General Industry development should provide for safe, compact, and harmonious groupings of uses, facilities, and outdoor spaces. Elements of the proposed development should be designed according to conservation design techniques consistent with the Green Infrastructure polices of the Plan. Design of the proposed development should be organized in relation to the size and shape of the lot, the character of the adjoining property, existing desirable trees, and the views within and beyond the site. In addition, the site plan should provide for the appropriate relation of space inside and outside of buildings to intended uses and structural features.

Front and side yards should be minimized, as in other neighborhoods to provide a human-scale enclosure along the street. Buildings should be the prominent feature of the site when viewed from the road, while outdoor storage and the majority of parking should be located toward the rear of a lot. Parking lots and loading areas should be accessed by an alley and wherever possible parking should be shared by several uses.

Principal vehicular access points should be designed to encourage smooth traffic flow with controlled turning movements and minimum hazards to vehicular or pedestrian traffic. Left-hand storage and right-hand turn lanes and/or traffic dividers should be provided where existing or anticipated heavy flows indicate need. Minor streets should not be connected with streets outside the development in such a way as to encourage the use of such minor streets by substantial amounts of through traffic.

Yards, fences, walls, or vegetative screening at the edges of any General Industry area should be provided where needed to minimize any undesirable view, lighting, noise, or other off-site influences from the street and to protect residents of adjoining residential neighborhoods. In particular, extensive off-street parking areas and service areas for loading and unloading non-passenger vehicles and areas for storage and collection of refuse should be screened.

Extensive use of landscaping as buffers, to break up monotonous parking surfaces, structural walls, and storage areas, and for aesthetic quality is strongly encouraged in General Industry areas.

Heavy and extraction industries and Special Uses are very dependent on the nature of the use, manufacturing operation, or resource and therefore may drastically vary from one use to another.

C. Rural Policy Area Design Guidelines

1. Rural Clusters

a. Purpose and Function:

Rural clusters allow lots to be clustered in a traditional rural community pattern while retaining the majority of a site in common open space and/or rural economy lots. Rural clusters will support predominately single-family detached residential development. Clusters should be designed to protect groundwater resources, preserve open space and the Green Infrastructure, enhance the rural economy, enhance opportunities for alternative and passive energy residences, and reduce potential congestion on rural roads.

b. Size:

Clusters should comprise 5 to 25 lots and be surrounded by rural economy and/or common open space. The minimum lot size in a cluster shall be determined based on the type of water and wastewater to be provided to the individual lot. A variety of lot sizes is encouraged to provide a diversity of housing types and rural economy uses. While more than one cluster may be accommodated on a tract of land, such settlements should be physically and visually separated from adjoining residential and rural economy uses.

c. Physical Character:

The new rural cluster lots may be designed along a road and/or around a green/square or historic site feature with the dwellings arranged in a logical relationship with one another and with the surrounding landscape. Lots sizes and setbacks should be flexible to provide a tight cluster and maximize open space. While lots in the rural cluster may not front on an existing through road, the County will consider proposals to build a small bypass and to use the mature hedgerows and trees of the existing road in a new cluster design.

d. Location and Formation:

The new rural cluster should generally have two points of access to an existing collector or secondary road. Every effort should be make to keep existing villages and towns and new clusters visually distinct. The design and layout of the cluster should use existing topography, hedgerows, mature woodlands and other site features to blend with the rural and scenic quality of the landscape.

e. Land Uses:

Single-family detached houses would be the permitted use in new rural clusters. The land not associated with the cluster itself should remain open for and available for rural economy uses. Also to the extent feasible rural economy uses are encouraged on any and all residential lots within a cluster.

f. Transportation:

No lot of a new rural cluster may front on an existing public road unless a substitute “bypass” road is constructed. Rural cluster lots should front on a paved public road.

D. Transition Policy Area Design Guidelines

The County envisions that the Transition Policy Area will achieve a balance between the natural and built environments, and development patterns will serve as a transition both visually and spatially between the

Suburban Policy Area to the east and the Rural Policy Area to the west. Development, through the application of conservation design, will define a green edge between the Transition Policy Area and Rural Policy Area. The prescribed cluster design will develop a contiguous network of natural systems to achieve the County's Green Infrastructure objectives. A key implementation step of the *Revised General Plan* is the development of a Transition Policy Area plan and Design Guidelines. The guidelines included below will serve as interim guidelines pending the adoption of those plans.

Properties within the Transition Policy Area vary in development potential with respect to lot size, permissible densities, access, surrounding development patterns and Green Infrastructure features offering a diverse pattern upon development.

The County envisions that development within the Transition Policy Area will occur in two forms-clusters and villages surrounded by a contiguous network of natural features and planned open spaces. Villages and clusters differ predominantly in the scale and mix of uses within the development types. Clusters will support predominantly single-family detached residential development at densities between one dwelling unit per 10 acres and one dwelling unit per one acre with significant open space areas.

Villages will be mixed-use developments planned to foster a sense of place and community identity, and to support an integrated mix of residential and non-residential uses, and organized around a community core. The community core should be of a small scale, consistent with the surrounding residential neighborhoods.

1. Residential Cluster

a. Function:

Residential clusters provide for a grouping of residential uses within a portion of the site, leaving the remainder of the site undisturbed as unbuilt open space. The residential clusters proposed in the Transition Policy Area are derived from the concept of Rural Hamlets defined by the 1991 *General Plan* and support primarily residential uses with associated open spaces.

b. Scale:

Residential Clusters are typically small in scale supporting anywhere between 5 to 25 residential units. Residential densities range from one dwelling unit per 10 acres to one dwelling unit per acre depending upon the subarea in which the cluster is located.

c. Land Use Arrangement:

All development will be clustered pursuant to the cluster design guidelines outlined above. There should be no minimum lot size in a cluster, to provide flexibility in design consistent with conservation design techniques. Residential clusters are likely to be predominantly single-family detached residential development. A minimum of 50 percent to 70 percent of the total development area will be designated as open space. Clusters may include a system of trails and pedestrian networks that connect residential units to the Green Infrastructure and serve to integrate the open spaces in a contiguous network.

d. Streetscape:

Streetscape design is central to defining both the visual and spatial quality of a development. Streets serving residential clusters should be lined with trees and constructed at minimum required widths to merge into the open landscape and slow traffic.

2. Villages

a. Function:

Villages will integrate residential and non-residential uses within pedestrian friendly communities. These mixed-use clusters are derived from the concept of Rural Villages defined by the 1993 Zoning Ordinance with residential units arranged around a community core.

b. Scale:

Village densities range from two dwelling units per acre to one dwelling unit per three acres depending on the subarea in which the Village is to be located. Within the village, densities may also vary. Higher densities generally will be associated with the community core, supporting a small-scale mix of uses. Lower density areas will develop as predominantly single family detached residential uses along the periphery of the development.

c. Land Use Arrangement:

Villages should incorporate a mix of uses, including residential, recreational, service-based commercial and local businesses, institutional and community facilities necessary to promote a self-sustaining community. These varied uses should be integrated in a manner that allows for a transition between diverse uses, promotes pedestrian movement, fosters community interaction and a sense of place.

Villages will include a community core. The core may be organized around an open space. One of the primary objectives of the community core is to foster community interaction and create a sense of place. While most developments typically have only one core, larger developments may have as many as two cores as long as they provide for easy access between the two cores. Community cores should include public facilities and amenities such as schools, churches, parks and not big-box commercial uses. Retail and recreational/entertainment uses must be located in the core.

Higher density residential uses such as townhouses and low-density apartments should be located near or around the community core. Lower density residential uses such as single-family residential units may be located at the periphery of the development.

The location of non-residential uses, including commercial will be based on the scale/intensity of the use and the markets that they serve. Smaller scale commercial retail, service and business uses such as variety stores, cafes, day care centers will be located in the core to facilitate community interaction. Larger or specialty stores and uses such as grocery stories may require broader markets that extend to surrounding communities. Such uses will be located along a major arterial or collector road, at the periphery of the mixed-use cluster. However, efficient pedestrian trails have to be provided between the residential areas and the non-residential uses.

d. Architecture:

The architectural character will be consistent throughout the development and be compatible with the rural landscape. These architectural design guidelines relate particularly to the issues of scale, materials and style of the buildings. As far as possible the community core should be the focal point of the development, either through the design or uses represented within it. Clear visual access to the same, in terms of recognizable pedestrian paths and roadways, may serve to identify the same as the focal point.

e. Open Space:

A minimum of 50 percent of the total development area will be designated as open space and

development will not exceed 50 percent of the total site. Open space design within a community should take into consideration natural features of the site and be consistent with conservation design techniques. The open space associated with a Village should serve to integrate the development with the existing natural landscape and Green Infrastructure. Open space areas will serve as a transition between the private and public realm.

Open spaces surrounding the periphery of the development will constitute the predominant component of the 50 percent open space requirement. A small part of the open space requirement may include central open space or community parks associated with the community core. In larger villages, parks and open space/green pockets will be distributed within the development to allow for easy pedestrian access from the residential neighborhoods, especially the single-family residential units located at the periphery of the development. This helps define a hierarchy of open spaces and parks within the development, connected by well-defined systems of pedestrian trails.

f. Streetscape:

Interior streets will be tree-lined with houses built close to the road to frame the street creating a shady lane. A comprehensive pedestrian and bicycle network must link all uses within the development with a view towards reducing automobile traffic and minimizing walking distances. Parking should be addressed through a combination of on-street and off-street choices. Large continuous surfaces of paved parking must be avoided. In community cores, street trees, common greens, on-street parking and sidewalks or trails are essential elements of the streetscape. Recommended designs include limiting the length of streets, introducing a rotary or traffic circle, shifting the street network through the use of T-intersections, or other similar techniques.

3. Non Residential Developments Along Major Arterial and Collector Roads

a. Function:

Non-residential uses will include commercial, business and institutional uses developed at a scale that would allow them to blend effectively (visually and spatially) into a rural landscape.

b. Scale:

Non-residential uses will be consistent with the scale of the surrounding developments and the rural landscape. Individual buildings will not be greater than 40 feet in height and 150 feet in length. Building heights will relate to the surrounding landscape and heights of adjacent structures. Building heights could be stepped to relate to adjoining structures.

c. Land Use Arrangement:

Non-residential uses will front major arterial or collector roads, and may be developed as part of a Village functioning as the community core. Conservation design will be applied. The scale and the volume of the primary built mass and accessory elements should not dominate over the natural landscape. Buildings should be shielded from the road using natural landscaping, earth berms, etc. Continuous plane building surfaces will be avoided. Homogeneous surfaces shall not exceed a linear distance of 20 feet especially when they front public access roads, such as major arterial or collector roads. Such surfaces will be broken up into smaller segments through fenestration and setbacks.

Parking areas will be located behind buildings and will not be the dominant feature of the landscape. Paved parking surfaces will be broken into modules; interspersed by tree plantings and other on-site landscape to prevent the creation of large paved surfaces as associated with suburban malls or office complexes. Developments will be sensitive to the use of glass and night lighting.

These building elements will have to be buffered from access roads. Signage will be scaled and designed to be compatible with the surrounding landscape.

d. Open Space:

Open space areas will serve as a transition between the private and public realm. Open spaces will form a contiguous network, integrated with pedestrian trails, etc., both within the development and where feasible with neighboring properties.

e. Streetscape:

Major arterial and collector roads servicing non-residential uses will be designed to merge as far as possible with the natural landscape and not develop as the dominant feature of the landscape. These roads will develop as boulevards, with sufficient landscaping and tree plantings on either side.

Implementation Strategy

A work program for implementing the policies included in the *Revised General Plan* will be initiated upon adoption of the Plan. The implementation strategy provides an outline of the key actions that must occur to implement the *Revised General Plan*'s policy direction. It gives broad general guidance as to the regulations, guidelines, future planning efforts, and programs that will be developed and implemented to achieve the Plan's objectives. The work program and action schedule will continue to be amended, added to, and refined. The Board will use the Action Schedule of implementation steps recommended by the Planning Commission as the framework for developing the work program.

This implementation strategy defines the future tasks that should be undertaken to fully implement the *Revised General Plan*. Necessary implementation actions include studies, mapping, area plans, ordinances, design guide-lines, programs, and regional forums. Many of these actions are explicitly identified in the policies and text of the Plan.

The following list identifies key implementation actions:

- Design and adoption of a program for public participation in the area plan and implementation process.
- Preparation and completion of a comprehensive remapping of the County and adoption of a new Zoning Map and new Zoning Ordinance consistent with Plan policies.
- Preparation and adoption of an updated Land Subdivision and Development Ordinance consistent with Plan policies.
- Preparation and adoption of an updated Facility Standards Manual consistent with Plan policies.
- Preparation and adoption of illustrated design guidelines and incentives to include conservation design.
- Preparation and adoption of area plans to include the Sterling Community Plan, Potomac Community Plan, Ashburn Community Plan, Dulles Community Plan, and Transition Policy Area Plan.
- Preparation and adoption of an updated *Round Hill Area Management Plan, Comprehensive Plan for the Town of Hamilton and the Urban Growth Area.*
- Preparation and adoption of a Preservation Plan.

- Study, development and initiation of Affordable Housing incentives and programs including the establishment of a Housing Trust Fund and Housing Authority.
- Preparation and adoption of an updated County Water and Sewer Master Plan to include guidelines for the management of on-site wastewater systems and new technology, alternative individual and communal wastewater facilities.
- Preparation and adoption of Public Water Supply Watershed Protection program and associated ordinances.
- Preparation and adoption of updated Service Plans.
- Study and map Green Infrastructure components and develop the Resource Management Data Base.
- Preparation and adoption of a long-range integrated transit and land use plan for designated transit corridors.